

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-16. (Cancelled)

17. (Currently Amended) A method of contour-welding three-dimensional thermoplastic molded articles, comprising:

- moving a laser-absorptive join partner and a laser transmissive join partner into contact with one another in the vicinity of an outline that is to be co-welded;
- exposing the laser-absorptive join partner to radiation in a welding area by a laser welding beam and transmitting the laser welding beam through the laser transmissive join partner to weld together the join partners; and
- additionally and simultaneously exposing the laser transmissive join partner in the welding area to an electromagnetic secondary radiation from a source different from a laser radiation and selected from the group consisting of IR and UV radiation for selective temperature increase of the welding area such that the temperature field in

the welding area is homogenized with respect to a molten phase and an inter-layer plasticizing zone of the join partners, wherein the secondary radiation comprises at least beam fractions that deviate from the wavelength of the laser welding beam.

Claims 18 and 19. (Cancelled)

20. (Previously Presented) A method according to claim 17, wherein the secondary radiation used is IR radiation which is one of a medium-wave and short-wave IR secondary radiation.

21. (Cancelled)

22. (Previously Presented) A method according to claim 17, wherein the secondary radiation is initiated ahead of or continued behind the laser welding beam.

23. (Previously Presented) A method according to claim 17, wherein the secondary radiation is focused.

24. (Previously Presented) A method according to claim 17, wherein at least one of the secondary radiation and the laser welding beam is applied by a clamping device that is transmissive to the secondary radiation or to the laser welding beam.

25. (Withdrawn-Currently Amended) An apparatus for welding thermoplastic molded articles, in particular for contour-welding three-dimensional molded articles, comprising

- a clamping device (10,10') for two join partners (1,2);
- a laser welding beam source for producing a laser welding beam (3);
 - a laser welding beam guide (5,35) for guidance of the laser welding beam (3) to one (2) of the two join partners (1,2) in a welding area (18) between the two join partners (1,2);
 - a secondary radiation source (14) for producing an electromagnetic secondary radiation (15) other than a laser welding beam source; and
 - a secondary radiation guide (16) for guidance of the secondary radiation (15) to the other (1) of the two join partners (1,2) in the welding area (18) such that, by selective temperature increase of the other join partner (1), the temperature field in the welding area (18) is homogenized, with respect to a molten phase and an inter-layer plasticizing zone of the join partners.

26. (Withdrawn) An apparatus according to claim 25, wherein the secondary radiation (15) comprises at least beam fractions that deviate from the wave-length of the laser welding beam (3).

27. (Withdrawn-Currently Amended) An apparatus according to claim 25, wherein the secondary radiation source (14) is one of an IR and UV ~~radiator~~radiation.

28. (Withdrawn-Currently Amended) An apparatus according to claim 27, wherein the secondary radiation source (14) is one of a medium-wave IR radiator and a short-wave IR halogen ~~radiator~~radiation.

29. (Withdrawn) An apparatus according to claim 25, wherein a focus of the laser welding beam (3) is disposed substantially concentrically and synchronously of an area (19) the secondary radiation (15) acts on.

30. (Withdrawn) An apparatus according to claim 29, wherein the area (19) the secondary radiation (15) acts on leads ahead of the focus (21) of the laser welding beam (3).

31. (Withdrawn) An apparatus according to claim 25, comprising a focus device (16) for the secondary radiation (15).

32. (Withdrawn) An apparatus according to claim 25,
comprising a clamping device that is transmissive to at least one of the
laser welding beam (3) and the secondary radiation (15).

33. (Withdrawn) An apparatus according to claim 32,
comprising a clamping roller (10') through which passes at least one of the
laser welding beam (3) and the secondary radiation (15) towards the
welding area.

34. (Currently Amended) A method of contour welding
three-dimensional thermoplastic molded articles, comprising:

- a. moving a laser-absorptive join partner and a laser-transmissive join partner into contact in the vicinity of an outline that is to be co-welded along a welding level;
- b. exposing the laser-absorptive join partner to radiation in a welding area by a laser welding beam and transmitting the laser welding beam through the laser transmissive join partner; while
- c. simultaneously exposing the laser transmissive join partner in the welding area to secondary electromagnetic radiation from a source different from a laser radiation and selected from the group consisting of IR and UV radiation whereby the temperature field in the

welding area is homogenized with respect to a molten phase and an inter-layer plasticizing zone of the join partners, on both sides of the welding level, wherein the secondary radiation comprises at least beam fractions that deviate from the wavelength of the laser welding beam.

35. (Previously Presented) The method according to claim 34 wherein the secondary radiation is applied substantially concentrically and synchronously of the laser welding beam.